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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,711	10/17/2003	Hiroshi Okano	442.1033-D	8824

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EXAMINER

JIANG, CHEN WEN

ART UNIT PAPER NUMBER

3744

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/686,711

Applicant(s)

OKANO ET AL.

Examiner

Chen-Wen Jiang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-15, 19, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-15, 19, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/862,221.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20031017</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 11 recites the limitation "the hot air" in line 2. There is insufficient antecedent basis for this limitation in the claim.
2. The following rejections are based on the best understanding of the claimed limitations.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9,10,12,13,14,15,19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belding et al. (U.S. Patent Number 5,727,394) in view of Macriss et al. (U.S. Patent Number 3,844,737).

In regard to claims 9,10,12 and 14, Belding et al. disclose an air conditioning system with an indirect evaporative cooler. Referring to Figs.1-4, the system comprises a desiccant wheel 8, a sensible heat exchanger 22 with two passages, water spray 60, air supply 28 and air return 32. Belding et al. disclose the invention substantially as claimed. However, Belding et al. do not disclose return air passes the sensible heat exchanger. Macriss et al. disclose the return air can be used in the sensible heat exchanger in the same field of endeavor for the purpose of optional heat exchange medium. Therefore, it would have been obvious to one having ordinary skill in

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the art at the time the invention was made to provide the apparatus of Belding et al. with a return air through the sensible heat exchanger in view of Macriss et al. so as to have optional heat exchange medium.

In regard to claim 13, the nozzle spray is well known in the prior art.

In regard to claims 19 and 23, the passages of the heat exchange element are isolated since it is indirect heat exchanger.

In regard to claim 15, Macriss et al. discloses honeycomb desiccant wheel and the honeycomb has sound absorption property in nature.

5. Claims 11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belding et al./ Macriss et al. as applied to claim 9 above, and further in view of Niwa et al. (JP 08061090).

Niwa et al. disclose exhaust heat can be used in the regeneration process. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to used exhaust heat in order to save energy.

6. Claims 9-12,14,23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moratalla (U.S. Patent Number 6,361,588) in view of Guimaraces (U.S. Patent Number 6,044,640).

In regard to claims 9,12,14 and 23, Moratalla discloses an energy transfer system as shown in Fig.5H. The system comprises desiccant dehumidifier, heater 16, sensible heat exchanger with tow passages and evaporative cooling 117. Moratalla discloses the invention substantially as claimed. However, Moratalla does not disclose rotor type dehumidifier.

Guimaraces discloses rotor type dehumidifier in the same field of endeavor for the purpose of

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having desiccant wheel. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Moratalla with a rotor dehumidifier in view of Guimaraces so as to use wheel desiccant.

In regard to claim 10, Moratalla discloses stationary sensible heat exchanger.

In regard to claims 11 and 24, Guimaraces discloses using combustion turbine exhaust heat.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809. The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang  
Primary Examiner

